

# Morbidity and Mortality



**RECEIVED**  
 Vol. 20, No. 34  
 SEP 3 1971  
 WEEKLY  
 REPORT  
 CDC LIBRARY  
 ATLANTA, GA. 30333  
 Week Ending  
 August 28, 1971

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / PUBLIC HEALTH SERVICE HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION  
 DATE OF RELEASE: SEPTEMBER 3, 1971 - ATLANTA, GEORGIA 30333

**EPIDEMIOLOGIC NOTES AND REPORTS**  
**HUMAN BUBONIC PLAGUE - Oregon**

On Aug. 5, 1971, a 10-year-old boy from Pendleton, Oregon, noticed pain in his left groin when lifting a heavy object. The next day, he was admitted to a local hospital with fever and a painful, erythematous lesion in his groin. A 1 mm, flat, slightly hemorrhagic, nonindurated lesion was noted on his left great toe. On admission, he was started on doxycycline, 100 mg per day in two doses, which was continued until a surgical biopsy of the groin lesion was obtained on August 7. A purulent, necrotic lymph node was noted on biopsy, and the patient was given 500 mg of cephaloridine intravenously and started on clindamycin, 600 mg orally per day in four doses.

On August 9, cultures of the biopsy material showed growth of gram-negative, bipolar rods. Plague was suspected, and his antibiotic was changed to streptomycin, 1.5 grams daily in three doses. The organism was sent to the Oregon State Board of Health Laboratories and on August 10 was re-

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ported as presumptively positive for *Yersinia pestis* by the fluorescent antibody technique. This identification was subsequently confirmed by the Zoonoses Section, Ecological Investigations Program, Ft. Collins, Colorado.

From July 27 to Aug. 4, 1971, the boy had resided at a cabin near a small private lake in a remote part of northeast Oregon, approximately 100 miles from the area of the last reported plague case in 1970. The patient denied any known

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**TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES**  
 (Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	34th WEEK ENDED		MEDIAN 1966 - 1970	CUMULATIVE, FIRST 34 WEEKS		
	August 28, 1971	August 29, 1970		1971	1970	MEDIAN 1966 - 1970
Aseptic meningitis	294	302	150	2,752	2,498	1,559
Brucellosis	4	3	3	103	134	145
Diphtheria	6	28	3	106	244	106
Encephalitis, primary:						
Arthropod-borne & unspecified	33	35	45	892	852	852
Encephalitis, post-infectious	2	6	10	274	305	353
Hepatitis, serum	194	166	95	5,535	4,720	2,789
Hepatitis, infectious	1,113	1,172	880	39,363	36,597	28,659
Malaria	30	62	33	2,099	2,242	1,379
Measles (rubeola)	249	185	175	68,470	39,208	39,208
Meningococcal infections, total	27	36	36	1,712	1,807	1,944
Civilian	26	35	35	1,522	1,623	1,769
Military	1	1	1	190	184	184
Mumps	446	620	---	98,245	74,482	---
Poliomyelitis, total	—	—	—	9	17	23
Paralytic	—	—	—	7	17	20
Rubella (German measles)	200	201	204	37,928	48,799	43,076
Tetanus	2	2	3	68	75	97
Tularemia	4	3	4	109	91	114
Typhoid fever	8	10	7	199	183	211
Typhus, tick-borne (Rky. Mt. spotted fever)	15	11	13	306	268	216
Rabies in animals	53	64	66	2,796	2,078	2,393

**TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY**

	Cum.		Cum.
Anthrax	2	Psittacosis	23
Botulism: Penn.-3	9	Rabies in Man	1
Leprosy: Calif.-1, Hawaii-2	90	Rubella congenital syndrome: S.C. 2	40
Leptospirosis	24	Trichinosis: * N.J.-4, Ohio-1	50
Plague	1	Typhus, murine: Texas-1	16

\*Delayed reports: Trichinosis: Alaska Delete 2, 1971, Add 2, 1970.

## PLAGUE — (Continued from front page)

contact with rodents, although chipmunks, tree squirrels, and wood rats are abundant around the cabin area. No die-off of any of these animals was apparent to either the boy or any of his family members. He was unaware of any flea bites and was not certain of the cause of his toe lesion. On August 4, 1 day prior to the onset of his illness, the boy had returned to his home in Pilot Rock. The other 10 children and two adults who were living at the cabin have remained well.

Preliminary findings of ecological studies have indicated normal populations of all mammals in the area with the exception of white-footed mice (*Peromyscus* sp.) which were sparse. Columbian ground squirrels (*Spermophilus colum-*

*bianus*) were also scarce, but these animals estivate about July and are rarely evident in that area in August. The significance of the paucity of *Peromyscus* remains to be determined. Specimens have been collected for laboratory processing. The only control indicated has been public education.

(Reported by Rayburn Collis, M.D., Pendleton Community Hospital, Pendleton, Oregon; Anton Alderman, M.D., County Health Officer, Umatilla County, Oregon; Morris Chelsky, M.D., Director, Epidemiology Section, Oregon State Board of Health; the Zoonoses Section, Ecological Investigations Program, CDC, Ft. Collins, Colorado; and an EIS Officer.)

RECOMMENDATION OF THE PUBLIC HEALTH SERVICE  
ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES

## RUBELLA VIRUS VACCINE

## INTRODUCTION

Rubella is generally a mild illness, but when the infection is acquired by a woman early in pregnancy, particularly the first 3 months, fetal infection with subsequent abnormalities often develops. Preventing infection of the fetus and the resulting congenital rubella syndrome is the principal objective of rubella control.

Live, attenuated rubella virus vaccine\* is a highly effective immunizing agent, and its use provides the first suitable method of preventing rubella. While it is safe and protective for children, due to the possible risk of vaccine virus for the fetus, its safety for pregnant women has not been determined. The most feasible way to prevent fetal infection is to reduce virus transmission among children, the major source of infection for susceptible pregnant women. As of June 30, 1971, more than 28 million doses of vaccine had been distributed in the United States.

## Rubella

Rubella is one of the common childhood exanthems. Most cases occur in school-age children, particularly in the winter and spring. Approximately 80 to 90 percent of young adults in the continental United States have serologic evidence of immunity.

Rubella is clinically variable, and its common features—post-auricular and sub-occipital lymphadenopathy, arthralgia, and transient erythematous rash—are often overlooked or misdiagnosed. A mild febrile illness may not be recognized as rubella. Moreover, inapparent infection often occurs, further decreasing the reliability of clinical history.

Transient polyarthralgia and polyarthritis may accompany or follow the illness. Joint symptoms are reported to occur most frequently in adult women but are also observed in adult men and in children. Rarely, there is involvement of the central nervous system or thrombocytopenia.

By far the most important feature of rubella is the frequent development of fetal anomalies when women acquire rubella in early pregnancy, especially in the first trimester.

## Rubella Immunity

Immunity following rubella appears to be long lasting, even after mild illness or clinically inapparent infection. As

with other viral diseases, re-exposure to natural rubella sometimes results in a booster-type antibody rise but no clinical disease, indicating asymptomatic reinfection.

The only reliable evidence of immunity is the presence of specific antibody. The hemagglutination-inhibition (HI) antibody procedure is the serologic test of choice for determining immunity. Because of the variations among reagents and technical procedures, only laboratories that regularly perform these tests should be used.

## LIVE RUBELLA VIRUS VACCINE

Live rubella virus vaccines thus far licensed for use in the United States are prepared in duck embryo, dog kidney, or rabbit kidney cell cultures. They are administered as a single subcutaneous injection. Antibodies develop in approximately 95 percent of susceptible vaccinees. Differences in the frequency of adverse reactions and in the mean antibody titers induced by the available rubella vaccine preparations have been reported. Although titers are generally lower than those observed in response to natural rubella infection, vaccine-stimulated antibody protects against clinical illness on natural exposure.

Antibody levels have declined very little during the 5-year period of observation of children who were among the first to be immunized with rubella vaccine. Long-term protection is expected but can be documented only by continued observation.

Rash and lymphadenopathy occur occasionally in children after vaccination, but joint pain, usually of the small peripheral joints, has been the most common complaint. Arthralgia or arthritis has been reported in 1-15 percent of vaccinated children, but usually occurs in no more than 5 percent. Reports on the vaccine of dog kidney cell origin indicate that it commonly stimulates a somewhat higher level of antibody than other vaccines but is associated with higher rates of joint manifestations (7-15 percent). The joint symptoms are of greater severity and longer duration than symptoms caused by other vaccines.

Joint symptoms, or non-joint-associated pain and paresthesia in arms and hands or in the popliteal fossae, when they occur, begin 2-10 weeks after immunization. With the less reactive vaccines, they generally persist for 1-3 days. Re-

\*Official name: Rubella Virus Vaccine, Live.

currences have occurred, but rarely, and no permanent residua have been reported.

In susceptible women, arthralgia and generally transient arthritis following immunization are more frequent and tend to be more severe than in children. Not enough men have been studied to establish comparable data.

Vaccinees may shed small amounts of virus from the pharynx briefly at some time between the first and fourth weeks after immunization. Transmission of vaccine virus to susceptible contacts is, therefore, theoretically possible; however, when several thousand susceptible persons were deliberately exposed to numerous recent vaccinees, only a few of the contacts developed antibodies. Most of those who did had also been exposed to natural rubella at about the same time, and in only rare instances was seroconversion thought to be compatible with transmission of vaccine virus. In view of considerable experience with such investigations and with community vaccination programs, the probability of vaccine virus spread is exceedingly low.

Vaccinees exposed to natural rubella infection often have antibody titer rises but no clinical symptoms. Reinfection occurs most frequently in persons with low antibody titers, and it occurs both in vaccinees and in persons who have had rubella. In cases of reinfection, there is no detectable viremia and little pharyngeal excretion of virus. There is no evidence that rubella reinfection poses any risk for susceptible contacts. Furthermore, the apparent absence of viremia with reinfection suggests that immune women reinfected while pregnant would be unlikely to transmit virus to their fetuses. Further study is needed, however, to define the clinical and epidemiologic significance of reinfection.

## VACCINE USAGE

### General Recommendations

Live rubella virus vaccine is recommended for all children between the age of 1 year and puberty. It should not be administered to infants less than 1 year old due to possible failure to respond to vaccination.

Priority for immunization should be given to children in kindergarten and elementary school because they are the major sources of virus dissemination in the community. For optimum program effectiveness, it is essential that immunization activities be developed to ensure ongoing, routine immunization of preschool children as well. A history of rubella is not reliable; all children should receive vaccine.

It is desirable that programs of rubella vaccine use in adolescent girls and adult women be extended. Because of the precautions which must apply, potential vaccinees in these groups should be considered individually. They should receive vaccine only if they are shown to be susceptible by serologic testing and if they agree to prevent pregnancy for 2 months after immunization.

To accomplish such extended use of rubella vaccine, serologic testing capabilities should be expanded. With sufficient laboratory services available, there is merit in undertaking prenatal or antepartum screening for rubella susceptibility and, if appropriate, immunization in the immediate postpartum period. **Pregnant women should not under any circumstances be given vaccine.**

Immunization of adolescent or adult males is of lower priority. It may be a useful practice in preventing or controlling outbreaks of rubella in circumscribed population groups.

There is no evidence that live rubella virus vaccine given after exposure will prevent illness. There is, however, no contraindication to immunizing children already exposed to natural rubella. Similarly, there is no harm in vaccinating persons who have had rubella.

### Precautions and Contraindications

**Pregnancy:** Live rubella virus vaccine is **contraindicated.** (See General Recommendations.)

**Altered immune states:** Attenuated rubella virus infection might be potentiated by severe underlying disease such as leukemia, lymphoma, or generalized malignancy, and when immunologic response has been suppressed with steroids, alkylating drugs, antimetabolites, or radiation. Such patients should not be given live rubella virus vaccine.

**Severe febrile illness:** Immunization should be postponed until the patient has recovered.

**Hypersensitivity to vaccine components:** Theoretically, rubella vaccine should not be given to children clearly hypersensitive to the animals in vaccine production or to other components of the vaccine. To date, there have been no documented reports of serious reactions to rubella vaccine clearly attributable to hypersensitivity.

### Simultaneous Administration of Certain Live Virus Vaccines

Recently licensed combination live virus vaccines (measles-mumps-rubella, measles-rubella, and rubella-mumps) incorporate specific vaccine virus strains of demonstrated effectiveness and safety when administered simultaneously. Combinations of other strains of measles, rubella, and mumps vaccine viruses have not been tested sufficiently and, therefore, are not suitable for simultaneous administration at this time.

## SURVEILLANCE

Careful surveillance of rubella infection is particularly important now that the vaccine is in general use. Accurate diagnosis and reporting of rubella, of the congenital rubella syndrome, and of vaccine complications are now more important than ever. All cases of birth defects suspected of being related to rubella should be thoroughly investigated and reported.

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## EPIDEMIOLOGIC NOTES AND REPORTS

### INDUCED MALARIA — California

On June 9, 1971, a 17-year-old girl was hospitalized in Los Angeles County, California, with a 4-day history of severe headache, earache, and fever. Two days later, *Plasmodium vivax* parasites were seen on a peripheral blood smear. She subsequently made an uneventful recovery.

The patient had no previous history of malaria, blood transfusions, or foreign travel. Six weeks earlier, however, the patient had attended a party where illicit parenteral drugs and injection equipment were shared. (Although she denied actual

(Continued on page 310)

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

AUGUST 28, 1971 AND AUGUST 29, 1970 (34th WEEK)

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	DIPH- THERIA	ENCEPHALITIS			HEPATITIS			MALARIA	
				Primary including unsp. cases		Post In- fectious	Serum	Infectious		1971	Cum. 1971
				1971	1970	1971		1971	1970		
UNITED STATES.....	294	4	6	33	35	2	194	1,113	1,172	30	2,099
NEW ENGLAND.....	7	-	-	1	3	-	11	65	124	1	60
Maine*.....	-	-	-	-	-	-	4	13	29	1	4
New Hampshire.....	1	-	-	-	-	-	-	4	-	-	1
Vermont.....	-	-	-	-	-	-	-	5	8	-	1
Massachusetts.....	1	-	-	-	-	-	2	13	47	-	40
Rhode Island.....	5	-	-	-	3	-	-	11	19	-	6
Connecticut.....	-	-	-	1	-	-	5	19	21	-	8
MIDDLE ATLANTIC.....	37	1	-	4	9	-	97	213	200	-	208
New York City.....	11	-	-	1	1	-	59	52	42	-	22
New York, Up-State...	9	1	-	-	2	-	9	29	37	-	58
New Jersey.....	14	-	-	-	1	-	14	59	44	-	84
Pennsylvania.....	3	-	-	3	5	-	15	73	77	-	44
EAST NORTH CENTRAL.....	20	-	-	6	12	-	22	141	170	6	143
Ohio.....	8	-	-	2	9	-	4	44	38	1	18
Indiana*.....	-	-	-	1	-	-	-	6	16	-	11
Illinois.....	-	-	-	-	1	-	7	15	26	-	41
Michigan.....	12	-	-	3	2	-	11	65	74	5	48
Wisconsin.....	-	-	-	-	-	-	-	11	16	-	25
WEST NORTH CENTRAL.....	7	1	-	2	-	-	2	33	36	5	203
Minnesota.....	4	-	-	-	-	-	-	5	5	-	22
Iowa.....	2	1	-	-	-	-	-	7	3	-	25
Missouri.....	-	-	-	1	-	-	-	3	20	1	25
North Dakota.....	-	-	-	-	-	-	-	2	-	-	2
South Dakota.....	-	-	-	1	-	-	-	2	-	-	1
Nebraska.....	-	-	-	-	-	-	-	-	-	-	12
Kansas.....	1	-	-	-	-	-	2	14	8	4	116
SOUTH ATLANTIC.....	175	1	-	3	3	-	21	197	168	-	338
Delaware.....	-	-	-	-	-	-	-	5	2	-	1
Maryland.....	6	1	-	-	-	-	5	19	8	-	49
Dist. of Columbia...	-	-	-	-	-	-	-	-	10	-	4
Virginia.....	3	-	-	-	1	-	8	31	67	-	52
West Virginia.....	-	-	-	-	-	-	1	26	2	-	7
North Carolina.....	4	-	-	1	1	-	1	22	22	-	118
South Carolina.....	9	-	-	2	-	-	-	10	3	-	17
Georgia.....	143	-	-	-	-	-	-	-	27	-	57
Florida.....	10	-	-	-	1	-	6	84	27	-	33
EAST SOUTH CENTRAL.....	13	-	3	6	5	1	1	30	49	1	126
Kentucky.....	2	-	-	-	1	-	-	5	16	-	100
Tennessee.....	8	-	-	6	4	-	-	17	26	-	-
Alabama.....	3	-	3	-	-	1	-	4	4	1	20
Mississippi.....	-	-	-	-	-	-	1	4	3	-	6
WEST SOUTH CENTRAL.....	13	-	1	4	1	1	3	117	85	2	449
Arkansas.....	1	-	-	-	1	-	-	4	2	-	17
Louisiana.....	5	-	-	1	-	1	1	19	10	-	35
Oklahoma.....	2	-	-	-	-	-	-	34	9	-	64
Texas.....	5	-	1	3	-	-	2	60	64	2	333
MOUNTAIN.....	-	1	2	3	1	-	1	73	55	3	109
Montana.....	-	-	-	1	1	-	-	4	1	-	1
Idaho.....	-	-	-	2	-	-	-	8	2	-	4
Wyoming.....	-	-	-	-	-	-	-	1	3	-	1
Colorado.....	-	-	-	-	-	-	1	33	30	3	83
New Mexico.....	-	1	2	-	-	-	-	10	2	-	7
Arizona*.....	-	-	-	-	-	-	-	15	14	-	8
Utah.....	-	-	-	-	-	-	-	1	2	-	3
Nevada.....	-	-	-	-	-	-	-	1	1	-	2
PACIFIC.....	22	-	-	4	1	-	36	244	285	12	463
Washington.....	1	-	-	-	-	-	-	20	15	-	1
Oregon.....	-	-	-	-	-	-	2	36	22	-	19
California.....	21	-	-	4	1	-	31	183	244	10	392
Alaska.....	-	-	-	-	-	-	-	1	1	-	4
Hawaii.....	-	-	-	-	-	-	3	4	3	2	47
Puerto Rico*.....	-	-	-	-	-	-	-	57	38	-	18
Virgin Islands.....	-	-	-	-	-	-	-	-	-	-	-

\*Delayed reports: Diphtheria: Ariz. 2

Hepatitis, infectious: Me; 7, Ind. delete 2, P.R. 5

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TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDED  
AUGUST 28, 1971 AND AUGUST 29, 1970 (34th WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		POLIOMYELITIS		
	1971	Cumulative		1971	Cumulative		1971	Cum. 1971	Total	Paralytic	
		1971	1970		1971	1970			1971	1971	1971
UNITED STATES.....	249	68,470	39,208	27	1,712	1,807	446	98,245	-	-	7
NEW ENGLAND.....	2	3,424	853	3	77	79	22	6,007	-	-	-
Maine.....	-	1,460	204	-	8	3	7	1,189	-	-	-
New Hampshire.....	-	205	50	2	13	8	2	649	-	-	-
Vermont.....	-	116	8	-	-	7	1	341	-	-	-
Massachusetts.....	2	253	390	1	30	35	2	1,453	-	-	-
Rhode Island.....	-	238	118	-	3	5	5	1,177	-	-	-
Connecticut.....	-	1,152	83	-	23	21	5	1,198	-	-	-
MIDDLE ATLANTIC.....	14	7,469	4,801	9	235	331	22	6,178	-	-	-
New York City.....	7	3,737	856	5	51	81	19	1,694	-	-	-
New York, Up-State...	6	640	271	3	66	66	NN	NN	-	-	-
New Jersey.....	1	1,188	1,699	1	53	126	-	1,666	-	-	-
Pennsylvania.....	-	1,904	1,975	-	65	58	3	2,818	-	-	-
EAST NORTH CENTRAL.....	96	15,159	9,708	9	198	201	126	39,954	-	-	-
Ohio.....	3	3,977	3,795	6	64	80	29	7,679	-	-	-
Indiana.....	51	2,721	267	-	14	19	12	5,084	-	-	-
Illinois.....	7	2,923	3,039	1	56	44	6	4,192	-	-	-
Michigan.....	13	2,262	1,699	1	52	49	16	9,431	-	-	-
Wisconsin.....	22	3,276	908	1	12	9	63	13,568	-	-	-
WEST NORTH CENTRAL.....	3	6,794	3,836	2	125	93	24	6,448	-	-	-
Minnesota.....	-	61	38	-	21	13	-	1,094	-	-	-
Iowa.....	1	2,238	1,128	-	9	12	12	2,919	-	-	-
Missouri.....	2	2,599	1,267	1	45	55	1	1,021	-	-	-
North Dakota.....	-	231	318	-	5	3	6	322	-	-	-
South Dakota.....	-	215	93	-	5	-	4	235	-	-	-
Nebraska.....	-	64	924	-	14	5	1	91	-	-	-
Kansas.....	-	1,386	68	1	26	5	-	766	-	-	-
SOUTH ATLANTIC.....	30	7,584	7,127	2	299	372	44	7,088	-	-	1
Delaware.....	1	37	260	-	2	3	1	167	-	-	-
Maryland.....	2	539	1,375	-	44	34	3	638	-	-	-
Dist. of Columbia....	-	15	343	1	12	3	-	89	-	-	-
Virginia.....	-	1,572	1,971	-	35	40	2	949	-	-	-
West Virginia.....	4	492	308	-	7	10	12	1,825	-	-	-
North Carolina.....	3	1,925	856	-	53	76	NN	NN	-	-	-
South Carolina.....	2	903	593	-	20	44	8	849	-	-	-
Georgia.....	2	337	14	-	23	32	-	11	-	-	1
Florida.....	16	1,764	1,407	1	103	130	18	2,560	-	-	-
EAST SOUTH CENTRAL.....	21	8,170	1,305	-	148	134	28	7,671	-	-	-
Kentucky.....	5	3,891	752	-	38	45	4	2,319	-	-	-
Tennessee.....	2	1,017	373	-	59	58	20	4,338	-	-	-
Alabama.....	14	1,851	92	-	28	21	2	880	-	-	-
Mississippi.....	-	1,411	88	-	23	10	2	134	-	-	-
WEST SOUTH CENTRAL.....	20	12,337	7,485	-	145	244	53	7,959	-	-	3
Arkansas.....	-	777	30	-	5	21	5	88	-	-	-
Louisiana.....	2	1,669	92	-	51	61	1	134	-	-	-
Oklahoma.....	-	750	443	-	7	19	-	180	-	-	-
Texas.....	18	9,141	6,920	-	82	143	47	7,557	-	-	3
MOUNTAIN.....	6	3,186	1,499	-	54	36	46	3,946	-	-	1
Montana.....	1	923	60	-	6	1	6	388	-	-	-
Idaho.....	-	271	35	-	10	6	-	120	-	-	-
Wyoming.....	-	85	11	-	2	1	-	274	-	-	-
Colorado.....	5	826	176	-	7	12	27	1,292	-	-	-
New Mexico.....	-	341	198	-	4	1	7	630	-	-	-
Arizona.....	-	404	965	-	8	13	6	1,086	-	-	-
Utah.....	-	329	33	-	14	2	-	156	-	-	-
Nevada.....	-	7	21	-	3	-	-	-	-	-	1
PACIFIC.....	57	4,347	2,594	2	431	317	81	12,994	-	-	2
Washington.....	28	1,009	523	-	23	43	7	5,234	-	-	1
Oregon.....	-	370	228	-	31	25	14	1,302	-	-	1
California.....	23	2,541	1,525	1	369	247	54	5,540	-	-	-
Alaska.....	1	54	136	-	-	-	-	78	-	-	-
Hawaii.....	5	373	182	1	8	2	6	840	-	-	-
Puerto Rico.....	25	467	879	1	8	5	10	942	-	-	-
Virgin Islands.....	-	17	6	-	-	1	-	48	-	-	-

\*Delayed reports: Measles: Me. 1, N.J. 22  
Mumps: Me. 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDED  
AUGUST 28, 1971 AND AUGUST 29, 1970 (34th WEEK) - CONTINUED

AREA	RUBELLA		TETANUS		TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971	1971	Cum. 1971
UNITED STATES.....	200	37,928	2	68	4	109	8	199	15	306	53	2,796
NEW ENGLAND.....	10	1,699	-	4	-	-	1	10	-	2	1	178
Maine.....	1	258	-	-	-	-	1	1	-	-	-	163
New Hampshire.....	-	46	-	1	-	-	-	-	-	-	-	1
Vermont.....	-	94	-	-	-	-	-	-	-	-	-	11
Massachusetts.....	2	819	-	1	-	-	-	6	-	-	1	3
Rhode Island.....	5	96	-	-	-	-	-	-	-	2	-	-
Connecticut.....	2	386	-	2	-	-	-	3	-	-	-	-
MIDDLE ATLANTIC.....	16	2,479	-	6	-	-	1	32	-	29	6	126
New York City.....	8	522	-	5	-	-	-	9	-	1	-	-
New York, Up-State..	1	395	-	1	-	-	-	12	-	15	4	110
New Jersey.....	1	572	-	-	-	-	-	5	-	6	-	-
Pennsylvania.....	6	990	-	-	-	-	1	6	-	7	2	16
EAST NORTH CENTRAL....	70	8,167	-	7	-	5	2	25	-	16	7	296
Ohio.....	2	947	-	1	-	1	2	11	-	13	4	89
Indiana.....	25	1,988	-	1	-	-	-	4	-	-	-	60
Illinois.....	1	1,242	-	3	-	1	-	6	-	3	2	55
Michigan.....	17	2,581	-	2	-	1	-	4	-	-	-	39
Wisconsin.....	25	1,409	-	-	-	2	-	-	-	-	1	53
WEST NORTH CENTRAL....	3	3,163	-	5	1	17	-	2	-	4	18	754
Minnesota.....	1	272	-	2	-	-	-	-	-	-	6	164
Iowa.....	1	662	-	1	-	-	-	-	-	-	2	174
Missouri.....	1	1,344	-	2	1	13	-	2	-	2	4	110
North Dakota.....	-	93	-	-	-	-	-	-	-	-	4	136
South Dakota.....	-	95	-	-	-	1	-	-	-	-	-	81
Nebraska.....	-	86	-	-	-	-	-	-	-	-	1	5
Kansas.....	-	611	-	-	-	3	-	-	-	2	1	84
SOUTH ATLANTIC.....	17	2,999	1	16	-	17	-	31	9	162	4	302
Delaware.....	-	46	-	-	-	-	-	1	-	2	-	-
Maryland.....	-	132	-	1	-	3	-	3	2	27	-	1
Dist. of Columbia..	-	7	-	-	-	-	-	1	-	-	-	-
Virginia.....	-	206	1	2	-	8	-	3	2	23	-	62
West Virginia.....	14	581	-	-	-	-	-	3	-	3	-	104
North Carolina.....	-	45	-	1	-	4	-	4	4	84	-	4
South Carolina.....	2	431	-	-	-	-	-	1	1	12	-	-
Georgia.....	-	-	-	2	-	-	-	2	-	11	3	96
Florida.....	1	1,551	-	10	-	2	-	13	-	-	1	35
EAST SOUTH CENTRAL....	12	3,193	1	9	-	10	-	25	6	47	4	263
Kentucky.....	2	1,100	-	-	-	2	-	6	2	10	2	136
Tennessee.....	9	1,822	1	6	-	5	-	15	-	27	2	85
Alabama.....	1	198	-	2	-	2	-	4	2	5	-	41
Mississippi.....	-	73	-	1	-	1	-	-	2	5	-	1
WEST SOUTH CENTRAL....	37	4,562	-	11	1	44	1	23	-	36	6	579
Arkansas.....	-	334	-	1	-	15	-	6	-	5	-	72
Louisiana.....	-	280	-	1	-	7	-	6	-	-	-	21
Oklahoma.....	2	67	-	1	1	14	-	2	-	25	2	243
Texas.....	35	3,881	-	8	-	8	1	9	-	6	4	243
MOUNTAIN.....	5	1,878	-	2	-	14	-	7	-	10	1	49
Montana.....	1	112	-	-	-	1	-	-	-	3	-	-
Idaho.....	-	39	-	1	-	1	-	-	-	3	-	-
Wyoming.....	-	859	-	-	-	-	-	-	-	-	-	8
Colorado.....	-	261	-	-	-	-	-	-	-	2	-	11
New Mexico.....	2	206	-	-	-	-	-	5	-	-	-	8
Arizona*.....	2	333	-	1	-	-	-	2	-	-	-	17
Utah.....	-	54	-	-	-	12	-	-	-	1	-	3
Nevada.....	-	14	-	-	-	-	-	-	-	1	1	2
PACIFIC.....	30	9,788	-	8	2	2	3	44	-	-	6	249
Washington.....	-	1,330	-	1	-	-	-	-	-	-	-	-
Oregon.....	5	717	-	1	2	2	-	-	-	-	-	6
California.....	25	7,552	-	6	-	-	1	39	-	-	6	209
Alaska.....	-	43	-	-	-	-	-	1	-	-	-	34
Hawaii.....	-	146	-	-	-	-	2	4	-	-	-	-
Puerto Rico.....	-	62	-	5	-	-	-	2	-	-	2	52
Virgin Islands.....	-	-	-	-	-	-	-	-	-	-	-	-

\*Delayed reports: Rabies in animals: Ariz. 1

# Morbidity and Mortality Weekly Report

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Week No. **34**      **TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED AUGUST 28, 1971**

(By place of occurrence and week of filing certificate. Excludes fetal deaths)

Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes	Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes
	All Ages	65 years and over				All Ages	65 years and over		
<b>NEW ENGLAND:</b>	722	424	29	24	<b>SOUTH ATLANTIC:</b>	1,244	651	42	66
Boston, Mass.-----	204	100	9	12	Atlanta, Ga.-----	123	55	-	10
Bridgeport, Conn.-----	51	29	2	1	Baltimore, Md.-----	249	137	4	12
Cambridge, Mass.-----	21	16	3	-	Charlotte, N. C.-----	40	20	-	1
Fall River, Mass.-----	33	22	-	1	Jacksonville, Fla.-----	99	39	3	4
Hartford, Conn.-----	58	31	1	3	Miami, Fla.-----	128	67	5	2
Lowell, Mass.-----	24	13	1	-	Norfolk, Va.-----	65	39	6	1
Lynn, Mass.-----	19	11	-	-	Richmond, Va.-----	113	59	4	13
New Bedford, Mass.-----	34	27	2	-	Savannah, Ga.-----	33	14	4	4
New Haven, Conn.-----	72	39	-	2	St. Petersburg, Fla.-----	90	67	2	4
Providence, R. I.-----	73	38	4	3	Tampa, Fla.-----	84	51	8	1
Somerville, Mass.-----	7	5	2	-	Washington, D. C.-----	183	88	6	10
Springfield, Mass.-----	44	30	4	1	Wilmington, Del.-----	37	15	-	4
Waterbury, Conn.-----	27	16	-	-	<b>EAST SOUTH CENTRAL:</b>	643	361	17	20
Worcester, Mass.-----	55	47	1	1	Birmingham, Ala.-----	110	64	-	7
<b>MIDDLE ATLANTIC:</b>	2,993	1,711	103	106	Chattanooga, Tenn.-----	36	21	2	1
Albany, N. Y.-----	60	29	2	3	Knoxville, Tenn.-----	31	21	-	-
Allentown, Pa.-----	27	22	2	-	Louisville, Ky.-----	108	64	6	5
Buffalo, N. Y.-----	139	83	1	3	Memphis, Tenn.-----	154	81	3	2
Camden, N. J.-----	44	25	1	1	Mobile, Ala.-----	54	31	1	-
Elizabeth, N. J.-----	35	18	1	1	Montgomery, Ala.-----	45	18	2	3
Erie, Pa.-----	64	44	4	3	Nashville, Tenn.-----	105	61	3	2
Jersey City, N. J.-----	54	28	3	3	<b>WEST SOUTH CENTRAL:</b>	1,214	628	33	78
Newark, N. J.-----	85	37	9	4	Austin, Tex.-----	42	19	1	7
New York City, N. Y.†	1,519	874	50	53	Baton Rouge, La.-----	52	24	2	6
Paterson, N. J.-----	45	27	3	1	Corpus Christi, Tex.-----	34	9	-	8
Philadelphia, Pa.-----	400	197	5	17	Dallas, Tex.-----	136	57	2	8
Pittsburgh, Pa.-----	116	63	6	5	El Paso, Tex.-----	44	23	2	5
Reading, Pa.-----	28	19	-	-	Fort Worth, Tex.-----	81	50	1	2
Rochester, N. Y.-----	118	71	6	5	Houston, Tex.-----	240	116	6	9
Schenectady, N. Y.-----	17	11	1	-	Little Rock, Ark.-----	78	43	2	7
Scranton, Pa.-----	39	31	1	1	New Orleans, La.-----	165	86	5	12
Syracuse, N. Y.-----	102	69	3	3	Oklahoma City, Okla.-----	80	45	2	2
Trenton, N. J.-----	45	26	2	2	San Antonio, Tex.-----	120	68	4	7
Utica, N. Y.-----	28	20	1	1	Shreveport, La.-----	51	27	-	3
Yonkers, N. Y.-----	28	17	2	-	Tulsa, Okla.-----	91	61	6	2
<b>EAST NORTH CENTRAL:</b>	2,443	1,370	60	119	<b>MOUNTAIN:</b>	443	257	16	20
Akron, Ohio-----	62	39	-	4	Albuquerque, N. Mex.-----	41	26	7	4
Canton, Ohio-----	36	20	1	3	Colorado Springs, Colo.-----	26	18	3	2
Chicago, Ill.-----	706	365	15	48	Denver, Colo.-----	114	69	1	1
Cincinnati, Ohio-----	159	88	2	6	Ogden, Utah-----	22	15	1	-
Cleveland, Ohio-----	190	84	5	13	Phoenix, Ariz.-----	106	56	-	7
Columbus, Ohio-----	134	73	-	5	Pueblo, Colo.-----	18	10	3	1
Dayton, Ohio-----	102	66	1	1	Salt Lake City, Utah-----	63	35	-	3
Detroit, Mich.-----	314	183	7	8	Tucson, Ariz.-----	53	28	1	2
Evansville, Ind.-----	39	26	2	-	<b>PACIFIC:</b>	1,661	991	34	50
Flint, Mich.-----	49	22	-	3	Berkeley, Calif.-----	15	9	-	-
Fort Wayne, Ind.-----	36	23	-	3	Fresno, Calif.-----	46	25	1	2
Gary, Ind.-----	28	14	6	3	Glendale, Calif.-----	32	22	-	-
Grand Rapids, Mich.-----	54	34	3	-	Honolulu, Hawaii-----	52	25	2	4
Indianapolis, Ind.-----	123	72	5	10	Long Beach, Calif.-----	107	57	3	4
Madison, Wis.-----	27	9	5	-	Los Angeles, Calif.-----	594	362	12	13
Milwaukee, Wis.-----	114	77	-	1	Oakland, Calif.-----	79	44	2	5
Peoria, Ill.-----	36	22	-	2	Pasadena, Calif.-----	38	28	-	-
Rockford, Ill.-----	33	21	5	1	Portland, Oreg.-----	129	74	-	3
South Bend, Ind.-----	56	35	2	4	Sacramento, Calif.-----	58	34	2	-
Toledo, Ohio-----	100	67	1	4	San Diego, Calif.-----	111	62	-	1
Youngstown, Ohio-----	45	30	-	-	San Francisco, Calif.-----	118	69	7	5
<b>WEST NORTH CENTRAL:</b>	769	469	23	37	San Jose, Calif.-----	40	31	1	1
Des Moines, Iowa-----	45	28	4	1	Seattle, Wash.-----	142	85	4	6
Duluth, Minn.-----	40	30	-	2	Spokane, Wash.-----	56	37	-	3
Kansas City, Kans.-----	47	21	2	7	Tacoma, Wash.-----	44	27	-	3
Kansas City, Mo.-----	116	80	2	3	<b>Total</b>	<b>12,132</b>	<b>6,862</b>	<b>357</b>	<b>520</b>
Lincoln, Nebr.-----	33	24	4	1	<b>Expected Number</b>	<b>12,167</b>	<b>6,881</b>	<b>385</b>	<b>525</b>
Minneapolis, Minn.-----	103	61	-	10	<b>Cumulative Total</b> (includes reported corrections for previous weeks)	<b>439,283</b>	<b>252,559</b>	<b>16,413</b>	<b>19,654</b>
Omaha, Nebr.-----	76	41	2	4					
St. Louis, Mo.-----	185	106	2	5					
St. Paul, Minn.-----	67	44	1	3					
Wichita, Kans.-----	57	34	6	1					
Las Vegas, Nev.*	21	6	-	1					

\*Mortality data are being collected from Las Vegas, Nev., for possible inclusion in this table, however, for statistical reasons, these data will be listed only and not included in the total, expected number, or cumulative total, until 5 years of data are collected.

## MALARIA — (Continued from page 305)

participation, she did admit that she may have "scratched" herself with the needle. Epidemiologic investigation revealed that a close acquaintance of the patient had returned from Vietnam a few days prior to attending the party. He allegedly had malaria and had used heroin regularly in Vietnam; he was treated with unknown medications for a febrile illness shortly after the party. Subsequent peripheral smears demonstrated *P. vivax*.

Although none of the other six people at the party had symptoms of malaria or positive blood smears, two persons had antibody titers to *P. vivax* of 1:64 by the indirect fluorescent antibody technique. All persons attending the party were treated with chloroquine; the Vietnam veteran also received primaquine.

(Reported by Charles W. Rasmussen, M.D., private physician,

Pasadena, California; Robert Murray, Epidemiology Analyst, Ichiro Kamei, M.D., Chief, Acute Communicable Disease Control, Los Angeles County Health Department; Rae Lindsay, M.D., Health Officer, Sutter-Yuba County Health Department; Mary Clark, M.D., Deputy Director of Public Health, Santa Clara County Health Department; Ronald R. Roberto, M.D., Medical Epidemiologist, Bureau of Communicable Disease Control, California State Department of Public Health.)

## Editorial Note

This is the third episode in California of needle-induced malaria traced to a Vietnam veteran since November 1970. Treatment with chloroquine alone is sufficient for induced malaria since there is no exoerythrocytic stage when the parasite is transmitted by trophozoite inoculation.

## FOLLOW-UP ON VENEZUELAN EQUINE ENCEPHALITIS — Texas

Since the last report on Venezuelan equine encephalitis (VEE) (MMWR, Vol. 20, No. 33), a total of 89 equine viral isolates have been reported from Texas (Table 1). Zapata has been added to the list of counties reporting equine viral isolates. There have been 76 laboratory confirmed human cases of VEE reported from the following counties: Cameron and Hidalgo (63), Nueces (6), San Patricio (3), Kleberg (2), Aransas (1), and Refugio (1).

(Reported by M. S. Dickerson, M.D., Chief, Communicable Diseases Services, J. E. Peavy, M.D., Commissioner, Texas State Department of Health; Edward J. Wilson, D.V.M., Assistant Coordinator of Regional VEE Eradication Program, U.S. Department of Agriculture; the Laboratory Division, and the Epidemiology Program, CDC.)

The Morbidity and Mortality Weekly Report, circulation 24,600, is published by the Center for Disease Control, Atlanta, Ga.

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The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

Table 1  
Equine Viral Isolates by Virulence and Equine Vaccination History  
Texas — August 1971

	Vaccinated	Unvaccinated	Vaccination History Unknown	Total
Virulent	17	22	16	55
Nonvirulent	22	0	0	22
Test results* not yet available	8	2	2	12
Total	47	24	18	89

\*Guinea pig or weanling mice inoculation test.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting outbreaks or case investigations of current interest to health officials.

Address all correspondence to: Center for Disease Control  
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Morbidity and Mortality Weekly Report  
Atlanta, Georgia 30333

DHEW Publication No. (HSM) 72-8017

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
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